



USA 03-01

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No.	10/622,843
Applicant	Wiesmann <i>et al</i>
Filed	July 18, 2003
Title	Fluorinated Precursors of Superconducting Ceramics, and Methods of Making the Same
TC/A.U.	1762
Examiner	Brian K. Talbot
Confirmation No.	4758
Dated	August 28, 2006

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

*I hereby certify this correspondence is being deposited with the United States Postal Service as first class mail, postpaid in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on August 28, 2006*  
Signed \_\_\_\_\_

**DECLARATION UNDER 37 C.F.R. § 1.132**

The undersigned, Harold Wiesmann of Stony Brook, New York, herewith declares as follows:

1. My résumé is attached.
2. I am co-inventor of the patent application identified above.
3. The present invention includes a method of making fluorinated precursors of superconducting ceramics. The steps of the method include spraying a precursor solution onto a substrate to provide a precursor-covered substrate. The precursor-covered substrate is then fluorinated by heating in an atmosphere containing fluorinated gas. A fluorinated precursor is formed.
4. After formation of the fluorinated precursor, the precursor of the present invention is converted into a crystalline superconductor by annealing. Fluorine in the precursor enhances epitaxial growth during the conversion.

BEST AVAILABLE COPY

5. The crystalline superconductor formed by the present invention contains only trace amounts of fluorine.

6. As stated on page 1 line 14 of the application "Current density ( $J_c$ ), also known as critical current, is a key property by which to evaluate the quality of a superconductor."

7. Before and after fluorine treatment, the precursors of the present invention have substantially no superconducting activity. That is, the precursors are substantially non-supportive of a superconducting critical current. If the precursors were capable of supporting a substantial superconducting critical current, it would not be necessary to convert the precursor into a crystalline superconducting ceramic. A substantially superconducting critical current would be a current above about 10,000 amperes per square centimeter.

8. However, the precursors of the present invention, prior to and after fluorination, may have some residual superconducting activity. A residual superconducting critical current is a current of less than about 10,000 amperes per square centimeter.

9. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. Further that these statements were made with the knowledge that willfully false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willfully false statements may jeopardize the validity of the application of any patent issued thereon.

Respectfully submitted,

Dated: 8/28/06

  
Harold Wiesmann